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ABSTRACT

A cooperative program between the Department of Pediatrics at the Texas Tech University Health Sciences Center and a special education program for developmentally disabled infants and children (birth through age 3) has provided 12 pediatric residents with a four-session training program. The residents were members of an interdisciplinary team which also included the child's parent, special education teacher, psychologist, educational specialist, and members of various allied health professions. Training activities included touring the special education program facilities; reviewing the child's chart; visiting the home; observing the special education teacher complete a developmental assessment of the child; reviewing the individualized education program with the teacher; observing child evaluations by occupational, physical, speech, or music therapists; and developing a relationship with the parents so that parents would rely on the resident as a source of medical information. Evaluation results suggest that the program was effective in introducing pediatric residents to issues concerning interventions with handicapped infants. (DB)

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RESIDENT TRAINING IN EARLY INTERVENTION WITH HANDICAPPED CHILDREN

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ABSTRACT

Pediatric residents gained experience in the management of disabled children in a four-session training component that linked the residency program and a school and home based early intervention program. The residents were members of an interdisciplinary team. The team included the parent, special education teacher, psychologist, educational specialist, members of various allied health professions and the pediatric residents. The training emphasized working with parents and special education professionals to solve problems in the management of handicapped children and discussion with appropriate community agencies. The residents completed a Likert-type questionnaire before and after completing this training that measured their perceptions of their knowledge and skill in several areas. At the completion of the rotation they also rated their satisfaction with the training program. The results of these evaluations suggest that such a program is an effective method for introducing pediatric residents to issues concerning interventions with handicapped infants.

INTRODUCTION

The Task Force on Pediatric Education of the American Academy of Pediatrics reported a lack of emphasis on developmental disabilities in most pediatric training programs (1). Also, two surveys (2,3) of practicing pediatricians have revealed that many of these physicians perceive significant deficiencies in their training in this area.

In the paper presented here the authors describe the implementation and evaluation of a training program for pediatric residents in early intervention for children with developmental disabilities. The Department of Pediatrics at the Texas Tech University Health Sciences Center collaborated on this project with a special education program for infants and children administered by the Lubbock Independent School District (4,5). The special education program - Developmental Education Birth through Two (DEBT) - incorporates home teaching directed at children below the age of three years who are at high risk for developmental disabilities. The residents participated directly with DEBT staff members in the overall educational and therapeutic management of these children.

DESCRIPTION

During the 1983 and 1984 academic years, twelve pediatric residents at various levels of training completed the DEBT component. Participation in this training was part of the residents' required rotation in ambulatory pediatrics.

The component described in the present paper is only one part of the residents' training in developmental and behavioral pediatrics. In addition to the DEBT component, residents complete a required one-month rotation in develop-

mental disabilities and behavioral pediatrics. They also attend lectures on topics within these areas and manage patients who present developmental and behavioral problems in both hospital and ambulatory clinic settings. During their training in the DEBT program, residents were not concurrently enrolled in any other similar training activities in developmental or behavioral pediatrics.

Many of the children in the training component were patients at the Texas Tech University Health Sciences Center and also attended subspecialty clinics concerned with high risk, developmental disabilities, pediatric neurology, and cerebral palsy. An effort was made to select these children and their families for the training program so that the residents would have access to the children's medical records when considering educational plans for the child. The resident was assigned one family to work with throughout the training program.

The DEBT component consisted of four half-day sessions at weekly intervals. The first session consisted of a tour of the DEBT facilities, a review of the child's chart, and a home visit. During this session, the resident observed as the special education teacher completed a developmental assessment of the child using a Koontz Child Development Scale (6) and a Denver Developmental Screening Test (7). Each resident received a packet of information on early childhood intervention that included definitions of special education terminology and a booklet on parent and student rights regarding special education. The second session of the program emphasized the resident's involvement in the implementation of the educational plan for the child. The teacher reviewed the child's individual education plan (IEP), described the rationale for each component of the plan, and demonstrated the child's

status relative to each objective in the plan. The resident was encouraged to ask questions of the teacher and parents, and to make suggestions regarding medical implications. During the third session, the resident observed an evaluation of the child by an occupational, physical, speech, or music therapist. The resident was encouraged to participate directly in these evaluations and to ask questions regarding the evaluation techniques and the recommendations for therapy. During the final session of the program, a home visit was scheduled in which the teacher discussed and continued implementation of the IEP. The professionals involved discussed additional services offered to the families, including parent training, social services, or allied therapies. Finally, the resident participated in a routine interdisciplinary conference on ongoing educational planning for the child. The parents were encouraged to rely on the resident as a source of medical information. Also, the resident provided information on the child's medical status as it pertained to the education plan.

Each of these activities occurred under the direct supervision of both the clinical psychologist (TW) who was a faculty member of the Texas Tech University School of Medicine and an educational specialist (MAR) who also was a staff member of the medical school.

EVALUATION

Prior to beginning the DEBT component, each resident completed a questionnaire to assess the resident's perceptions of his competence in thirteen areas related to early intervention with handicapped children. Upon the completion of the training, each resident completed the same evaluation again. The residents also completed a five-point Likert-type questionnaire that assessed their

perceptions of the value of the training. On this questionnaire, which consisted of eleven items, the response choices ranged 1=strong disagreement to 5=strong agreement.

RESULTS

Table 1 presents the results of the 13-item questionnaires that assessed the participants' perceptions of their knowledge before and after the training component. The composite average on all times increased from a pretest mean of 2.62 to a posttest mean of 3.52. This difference was statistically significant ($t[12df] = 12.76$ $P<.0001$). The means for all items were higher on the posttest than the pretest. The largest differences between the pretest and posttest means occurred on the items concerning awareness of community resources available for handicapped children, ability to communicate effectively with the teachers about the developmental and educational needs of a handicapped child, and sensitivity to individual handicapped children. The differences between the pretest and posttest means for these three items were 1.25, 1.20 and 1.09, respectively. The four items that showed the least change were those concerned with competency in present knowledge of normal and abnormal child development, knowledge of tests used to evaluate handicapped children, knowledge of social work terminology, and the role of the social worker, and understanding the limits of labeling. The differences between the means for these four items were .50, .62, .70, and .72, respectively.

Table 2 presents the mean response for each of the eleven items on the program evaluation questionnaire. Based on a 5-point scale, the overall mean for the items was 4.50. The items on the benefit of participation with one

family and on the site experience being worth my time away from the hospital received the highest ratings (4.80), while the lowest rating (4.00) was received on the item on the program allowing useful interaction with community agencies.

DISCUSSION

Richardson and colleagues (8) described a curriculum in handicapping conditions for pediatric residents during a one-month elective rotation in developmental and behavioral pediatrics. Powers and Healy (9) also discussed a curriculum for pediatricians who offer ambulatory care to handicapped children. Guralnick and colleagues (10) summarized the clinical and knowledge components of a curriculum in child development and handicapping conditions for pediatric residents. While the authors of each of these studies suggested that physicians would need to be knowledgeable about early intervention with handicapped children, they did not give specific suggestions that would permit residency programs to establish such programs and did not provide guidelines for evaluations. Others (11,12,13) have reported evaluations of general curricula in developmental and behavioral pediatrics for pediatric residents, but only one study (14) provided an assessment of curricular components specific to the management of handicapped infants. That study revealed residents' reports of increased sensitivity toward handicapped children and in residents' increased tendencies to characterize handicapped children more positively. That is the only described attempt to organize and evaluate a program based on direct involvement of residents in early intervention with handicapped children.

The evaluation of the DEBT component documents achievement of many of the curricular objectives described by the aforementioned authors (8,9,10). The results of the evaluation suggested that the residents perceived significant gains in their knowledge and skill in the management of handicapped children. The residents also gave positive evaluations of the program and felt that the experience was a worthwhile investment of their time.

The specific benefits gained by the residents during this training were: (a) increased familiarity with special education terminology and the pediatrician's role in formulating educational plans for handicapped children; (b) appreciation of the complete picture of the child's handicap, an appreciation that is rarely apparent during episodic clinic visits; (c) direct experience in establishing and using a network of referral services; and (d) direct exposure to the activities of other professionals such as special education teachers and physical, occupational, and speech therapists.

The residents rated themselves after the training as more competent in all of the thirteen areas evaluated. Even the items with the smallest differences between scores before and after training had mean scores that exceeded the composite mean for all items. This finding perhaps reflects the residents' competence in these skills prior to this training.

The limited experience gained by residents in this component of our program in developmental and behavioral pediatrics cannot be expected to provide them with all of the skills needed in the comprehensive management of handicapped infants. The residents' gains in this component must be amplified by additional training and by use of these skills in daily encounters with patients and their families.

The residents' involvement in the DEBT component presented logistical obstacles. Foremost was the residents' obligation to other aspects of their residency training, for example, when more urgent patient care responsibilities superceded the activities of the DEBT training. Also, the illness or unforeseen absence of a child or his family sometimes necessitated rescheduling of the residents' sessions. In those instances, the resident was given instruction on other aspects of early childhood intervention.

Evaluation of the training component also had methodological limitations. The use of pretraining and posttraining questionnaires was susceptible to many of the biases found in the use of questionnaires. However, the residents were not told that the questionnaire would be repeated at the end of the training, a circumstance that tended to minimize such effects.

In summary, we have succeeded in organizing and conducting a preliminary evaluation of an effective training experience in early childhood education for pediatric residents. We feel that the experience we have designed and implemented has met many sound instructional objectives described in the curriculum recommendations offered by educators in this field. The experience has become an integral part of our residency training and it can be duplicated at other pediatric residency programs by establishing affiliations with similar early intervention programs such as the one we have described in this paper.

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TABLE 1.

Mean Ratings of 12 Pediatric Residents on Their Perceptions of Their Abilities and Knowledge in Early Intervention and Management of Handicapped Children before and after Training, Texas Tech University Health Sciences Center, 1983, 1984*

Abilities and Knowledge	Mean Ratings		Difference+
	Before Training	After Training	
Sensitive to individual handicapped children.	2.58	3.67	1.09
Aware of the behavioral characteristics of different handicapped children.	2.33	3.33	1.00
Knowledgeable of labels and other terminology used to describe handicapped children.	2.42	3.22	.80
Understands the limits of labeling.	2.50	3.22	.72
Knowledgeable of the terminology of special education.	2.50	3.44	.94
Knowledgeable of tests used to evaluate handicapped children.	2.75	3.37	.62
Knowledgeable of psychological terminology and the role of psychologists in the management of handicapped children.	2.83	3.63	.80
Knowledgeable of social work terminology and the role of the social worker.	2.67	3.37	.70
Able to communicate effectively and plan with parents concerning the developmental health and educational needs of the handicapped child.	2.67	3.67	1.00
Able to communicate effectively with the teachers about the developmental and educational needs of a handicapped child.	2.67	3.87	1.20
Aware of community resources available for handicapped children.	2.50	3.75	1.25
Able to provide consultative support to families of handicapped children.	2.50	3.50	1.00
Competent in present knowledge of normal and abnormal child development.	3.25	3.75	.50
OVERALL	2.62	3.52	.90

*The training consisted of four half-day sessions concerning the management of one child in conjunction with the Developmental Education Birth through Two program administered by the Lubbock (Texas) Independent School System.

+Difference = posttraining mean minus pretraining mean.

TABLE 2.

Mean ratings of 12 Pediatric Residents of 11 Aspects of a Training Component in Early Intervention and Management of Handicapped Children, Texas Tech University Health Sciences Center, 1983 and 1984.*

ASPECTS OF TRAINING	MEAN RATINGS+
Increased knowledge of handicapped children	4.4
Program was well planned	4.4
Appropriate use of time	4.7
Content relevant to training needs	4.5
Useful interaction with the DEBT staff	4.6
Useful interaction with community agencies	4.0
Useful interaction with parents	4.4
Appropriate number and length of home visits	4.4
Participation with one family was beneficial	4.8
Continuity and lasting experience.	4.5
Worth time away from the hospital.	4.8

*The training consisted of four half-day sessions concerning the management of one child in conjunction with the Developmental Education Birth through Two program administered by the Lubbock (Texas) Independent School system.

+Ratings were made on a 5-point scale with 1 = strong disagreement and 5 = strong agreement with the statement concerning the training.